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| 09/996,149 | 11/28/2001 | Shawn R. Gettemy | 035451-0175 (3721.Palm) | 3054 |
| 26371 7590 04/23/2007 FOLEY & LARDNER LLP 777 EAST WISCONSIN AVENUE MILWAUKEE, WI 53202-5306 | | | EXAMINER XIAO, KE | |
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| SHORTENED STATUTORY PERIOD OF RESPONSE | | MAIL DATE | DELIVERY MODE | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 09/996,149 | Applicant(s) GETTEMY ET AL. | |
| | Examiner Ke Xiao | Art Unit 2629 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18, 19 and 21-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18, 19 and 21-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claim 21 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 21 recites, "the portable electronic device is a handheld computer". Claim 18 already recites "a handheld computer".

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claim 35 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 35 recites the limitation "the touch sensor layer" in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim. In order to overcome this rejection, the examiner suggests that Claim 35 be amended to be dependent from Claim 34 instead of 28. For the purposes of prior art rejection Claim 35 will be interpreted as being dependent from Claim 34.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18, 19, 21, 22 and 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ghassabian (US 7,020,270) in view of Katsura (US 6,377,324).

Regarding independent **Claims 18 and 21**, Ghassabian teaches a handheld computer (Ghassabian, Figs. 1 and 16) comprising:

a housing (Ghassabian, Fig. 16);

an expandable display assembly supported on the housing, providing a first viewing area and providing a second viewing area substantially the same size as the first viewing area, the first viewing area foldable underneath the second viewing area (Ghassabian, Figs. 16-17); and

wherein a user may view images on the second viewing area when the display assembly is folded and on the combined first and second viewing areas when the display assembly is unfolded (Ghassabian, Fig. 16-17); and

wherein images are not displayed on the first viewing area when the display assembly is folded and images are displayed on the second viewing area (Ghassabian, Fig. 16-17).

Ghassabian fails to teach a flexible touch sensor as claimed. Katsura teaches a flexible touch sensor associated with an expandable display, the sensing area of the touch sensor being enlarged when the expandable display is unfolded (Katsura, Fig. 1 Col. 3 lines 45-50). It would have been obvious to one of ordinary skill in the art at the time of the invention to add the flexible touch sensor of Katsura to the flexible display of Ghassabian in order to provide a more intuitive input means to the computer system of Ghassabian.

Regarding **Claim 24**, Ghassabian teaches a method of using a handheld computer (Ghassabian, Figs. 1 and 16), comprising:

viewing an image on a first viewing area of a flexible display, the flexible display comprising the first viewing area and a second viewing area folded behind the first viewing area, wherein images are not displayed on the second viewing area when folded behind the first viewing area (Ghassabian, Figs. 16-17);

enlarging the flexible display, by unfolding, to provide an enlarged viewing area comprising the first and second viewing area (Ghassabian, Figs. 16-17);

viewing an image in the enlarged viewing area (Ghassabian, Figs. 16-17).

Ghassabian fails to teach providing input via first and second sensing areas as claimed. Katsura teaches providing input to the handheld computer via a first sensing area of a touch sensor associated with the first viewing area of a flexible display; and providing input to the handheld computer via a second sensing area of the touch sensor comprising the first sensing area and associated with the enlarged viewing area of the

flexible display, the second sensing area being larger than the first sensing area (Katsura, Fig. 1, Col. 3 lines 45-50). It would have been obvious to one of ordinary skill in the art at the time of the invention to add the flexible touch sensor of Katsura to the flexible display of Ghassabian in order to provide a more intuitive input means to the computer system of Ghassabian.

Regarding **Claim 19** Ghassabian in view of Katsura further teaches that the flexible electronic display is electronic paper (e-paper) (Ghassabian, Figs. 16b and 16c, Col. 27 lines 20-34).

Regarding **Claim 22** Ghassabian in view of Katsura inherently teaches that the flexible and foldable touch sensor includes a transparent coating. To elaborate in order for the touch sensor to operate as an integral part of an LCD display (Katsura, Col. 3 lines 45-50) it must inherently include a transparent coating in order to allow light to pass through.

Regarding **Claim 25** Ghassabian further teaches decoupling the flexible display from the handheld computer (Ghassabian, Fig. 16, Col. 26 lines 62-67).

Regarding **Claims 26 and 27**, Ghassabian in view of Katsura fail to teach providing input using a fingertip or a stylus but merely teaches that a touching action is needed (Katsura, Col. 5 lines 12-20). Since the applicant has failed to disclose that a fingertip or a stylus for touching the touch sensor provides an advantage, is used for a particular purpose, or solves a stated problem, it is an obvious matter of design choice to use a fingertip or a stylus to touch the touch panel. Therefore it would have been

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obvious to one of ordinary skill in the art at the time of the invention to use a fingertip or stylus to provide the input because any touch tool would have been just as effective at activating the touch sensor.

Claims 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ghassabian (US 7,020,270) in view of Katsura (US 6,377,324) as applied to Claims 1-5, 7-11, 13-16, 18, 19, 21, 22 and 24-27 above, and further in view of Charlier (US 2003/0064751).

Regarding **Claim 23**, Ghassabian in view of Katsura fail to teach that the flexible and foldable touch sensor includes an electro textile. Charlier teaches that it is well known in the art to use electro textiles in touch panels and keypads (Charlier, Pg. 2 paragraph [0029]). It would have been obvious to one of ordinary skill in the art at the time of the invention to use electro textile material as taught by Charlier in the touch sensor of Ghassabian in view of Katsura in order to prevent damage to the sensor during folding.

Claims 28, 30-33 and 36-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ghassabian (US 7,020,270) in view of Albert (US 6,118,426).

Regarding **Claim 28**, Ghassabian teaches a mobile computing device (Ghassabian, Figs. 1 and 16), comprising:

a power source (All mobile devices must inherently have a power source);

a processor coupled to the power source (Ghassabian, Col. 29 lines 14-25);
a transceiver which communicates information wirelessly (Ghassabian, Figs. 1 and 16 element 126); and
a display coupled to the processor (Ghassabian, Figs. 16 and 17).

Ghassabian fails to teach that the display is a bistable display. Albert teaches that a bistable flexible display, which can be, used mobile devices (Albert, Col. 2 lines 20-55). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the bistable flexible display as taught by Albert in place of the generic flexible display of Ghassabian in order to save power.

Regarding **Claim 30**, Ghassabian further teaches that the transceiver is a mobile telephony transceiver (Ghassabian, Fig. 1, Col. 8 lines 53-59).

Regarding **Claim 31**, Ghassabian further teaches that the mobile computing device is configured to provide messaging (Ghassabian, Col. 27 lines 20-35).

Regarding **Claim 32**, Ghassabian in view of Albert fails to teach that the transceiver comprises a Bluetooth transceiver. The examiner takes official notices that Bluetooth is a well-known wireless technology in the field of mobile devices. It would have been obvious to one of ordinary skill in the art at the time of the invention to add a Bluetooth transceiver to the device of Ghassabian in view of Albert in order to allow for easy integration with other electronic devices.

Regarding **Claim 33**, Albert further teaches that the bistable display comprises eInk (Albert, by E Ink Corporation).

Regarding **Claim 36 and 37**, Ghassabian in view of Albert further teaches that the bistable display is flexible and foldable (Ghassabian, Figs. 16-17, Albert, Col. 2 lines 20-55).

Regarding **Claim 38**, Ghassabian in view of Albert further teaches that the transceiver comprises a mobile telephony transceiver which communicates messages wirelessly (Ghassabian, Col. 27 lines 20-35), wherein the bistable display comprises eInk (Albert, by E Ink Corporation), further comprising a plurality of input buttons coupled to the housing associated with the mobile computing device (Ghassabian, Figs. 16A-16G).

Regarding **Claim 39**, Ghassabian further teaches that the mobile computing device is configured to editing documents (Ghassabian, Col. 27 lines 20-35).

Claims 29, 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ghassabian (US 7,020,270) in view of Albert (US 6,118,426) as applied to Claims 28, 30, 31, 33 and 36-39 above, and further in view of Katsura (US 6,377,324).

Regarding **Claims 29, 34 and 35**, Ghassabian in view of Albert teaches that he bistable display comprises an expandable display assembly providing a first viewing area and providing a second viewing area, the first viewing area foldable underneath the second viewing area, wherein a user may view images on the second viewing area when

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the display assembly is folded an on the combined first and second viewing areas when the display assembly is unfolded (Ghassabian, Fig. 16, Col. 27 lines 20-35).

Ghassabian in view of Albert fails to teach a flexible touch sensor layer as claimed. Katsura teaches a flexible touch sensor layer associated with an expandable display, the sensing area of the touch sensor being enlarged when the expandable display is unfolded (Katsura, Fig. 1 Col. 3 lines 45-50). It would have been obvious to one of ordinary skill in the art at the time of the invention to add the flexible touch sensor of Katsura to the flexible display of Ghassabian and Albert in order to provide a more intuitive input means to the computer system of Ghassabian. Said touch sensor layer is inherently transparent because if the touch sensor layer is not transparent it will block the light from the display.

Response to Arguments

Applicant's arguments filed January 31st 2007 have been fully considered but they are not persuasive.

Regarding Claims 18 and 21-27, the applicant argues that Ghassabian fails to teach "a display assembly having a first viewing area foldable underneath the second viewing area" and wherein a user may view images on the second viewing area when the display assembly is folded and on the combined first and second viewing areas when the display assembly is unfolded". The examiner respectfully disagrees.

Ghassabian clearly shows a foldable display (Fig. 16), which can display images in

multiple modes including a compact mode which is when the first display area is folded behind the second display area (Fig. 16A) and a unfolded mode which displays an image on both the first and second display areas (Fig. 16B).

Regarding Claim 19, the applicant argues that Ghassabian fails to teach electronic paper because electronic paper is a particular type of bistable display technology. The examiner respectfully disagrees. Claim 19 only calls for electronic paper; the examiner takes this to read on anything that imitates paper but in an electronic medium. The limitation of bistability is not within the claim language and therefore does not need to be addressed.

Applicant's arguments with respect to Claims 28-39 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ke Xiao whose telephone number is (571) 272-7776. The examiner can normally be reached on Monday through Friday from 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

April 2nd, 2007 - kx -


SUMATI LEFKOWITZ
SUPERVISORY PATENT EXAMINER